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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Nai-Yin Sung

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EXAMINER

SILVER, DAVID

ART UNIT

PAPER NUMBER

2128

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/671,259	Applicant(s) SUNG ET AL.	
	Examiner David Silver	Art Unit 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/24/03</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-20 are pending in Instant Application.

#### ***Information Disclosure Statement***

2. The information disclosure statement(s) (IDS) submitted on 12/24/03 is/are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement(s) is/are being considered by the examiner if signed and initialized by the Examiner.
3. Page 20 of the Specification (Section APPENDIX) discloses that the code is copyright 1997. That section further discloses a usage license. The Examiner respectfully requires that the Applicants provide the date the code or code derived therefrom was first licensed as explained below.

#### ***Drawings***

4. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (**electronic design automation system**). See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Specification***

5. The disclosure is objected to because of the following informalities:
  - 5.1 Paragraphs 10 and 15 of the published version of the application, the word "manufactureres" is "manufacturers" misspelled.

Appropriate correction is required.

#### ***Claim Objections***

6. Claim 12 is objected to because of the following informalities: claim must end with a period (.).
- Appropriate correction is required.

### ***Claim Interpretation***

7. Claim 9 is not invoking 35 U.S.C. 112 sixth paragraph for the below emphasized reason:

**MPEP 2181 Identifying a 35 U.S.C. - 2100 Patentability recites:**

A claim limitation will be interpreted to invoke 35 U.S.C. 112, sixth paragraph, if it meets the following 3-prong analysis: (A) the claim limitations must use the phrase "means for" or "step for;" (B) the "means for" or "step for" must be modified by functional language; and **(C) the phrase "means for" or "step for" must not be modified by sufficient structure, material or acts for achieving the specified function.**

In view of MPEP 2181 (prong (C)), although the claims recite "means for" it is determined that the details following the "for" refers to intended use and does not invoke 35 USC 112 sixth paragraph.

8. As per claim 11, the "storage device" is interpreted to mean "retention device", which is disclosed in paragraph 40 of the PGPUB Specification and correlates to item 25 of the Drawings.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 1-5, 16-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
- 9.1 As per claims 6-10, for the purpose of 35 USC 101 analyses, the means for is interpreted to be tangible hardware.
- 9.2 As per claims 11-15, for the purpose of 35 USC 101 analyses, the storage device is interpreted to be tangible hardware.
- 9.3 As per claims 1-6, the method claims do not produce a useful, tangible, and concrete **result**. The steps of the method claims do not produce a useful, tangible, and concrete result. They merely recite a software algorithm, *per se*, which, for example, does not display, store, or otherwise provide a useful tangible output. Note exemplary claim 1 which only recites software steps (modeling a path delay) and does not produce a useful tangible and concrete **result**.
- 9.4 As per claims 16-20, the claims recites a medium (apparatus) but are further limited by steps. This presents an ambiguity as to the statutory class of the claim. Specifically, are claims 16-20 drawn to a

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method, or an apparatus. Furthermore, the method does not provide a useful, tangible, and concrete result. See 35 USC 101 rejection of claims 1-6 above.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**MPEP 2181 Identifying a 35 U.S.C. 112, Sixth Paragraph Limitation [R-3] recites, in part:**

**V. SINGLE MEANS CLAIMS**

Donaldson does not affect the holding of *In re Hyatt*, 708 F.2d 712, 218 USPQ 195 (Fed. Cir. 1983) to the effect that a **single means claim does not comply with the enablement requirement of 35 U.S.C. 112**, first paragraph. As Donaldson applies only to an interpretation of a limitation drafted to correspond to 35 U.S.C. 112, sixth paragraph, which by its terms is limited to "an element in a claim to a combination," it does not affect a limitation in a claim which is not directed to a combination.

10. Claim 8 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the **enablement requirement**. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 8 is a single means claim and fails to comply with 35 USC 112, first paragraph in view of MPEP 2181 part V (recited above).

11. Claims 2, 7, 12, and 17 are rejected under 35 U.S.C. 112, second paragraph, as being **indefinite** for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 2, 7, 12 and 17, the limitation "modeling functioning of said memory" is indefinite. Metes and bounds for "functioning of said memory" are not clearly defined. The claims are therefore rendered indefinite. When traversing this issue, the Applicants are required to specify what is to be encompassed by the term. Mere examples of what this term can mean may not be sufficient to traverse the issue.

Claim 12 ends with "and". The metes and bounds of the instant claim are not properly set because the claim does not come to a finish.

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12. The above-cited rejections are merely exemplary. The Applicant(s) are respectfully requested to correct all similar errors. Claims not specifically mentioned are rejected by virtue of their dependency.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1-4, and 6-9 are rejected under 35 U.S.C. 102(b) as being anticipated by IEEE's "IEEE

Standard for VITAL ASIC (Application Specific Integrated Circuit) Modeling Specification IEEE Std 1076.4-2000 (Revision of IEEE Std 1076.4-1995)".

**IEEE discloses claim 1.** A method for modeling a memory with delay back annotation in accordance with the VITAL application specific integrated circuit modeling specification (**page 19 section 5, page 62 section 8.2.2, first paragraph; page 127 last paragraph VitalWireDelay, page 5 section 3.2 "memory models"**), the method comprising the step of:

modeling a path delay of said memory by overloading VITAL path delay procedures to provide path delay calculations for timing of address, control, and data bus signals to the memory (**page iii, , page 19 section 5 "signal delays", page 80 table 8, page 101, table 20:**

**"EnableBus STD\_LOGIC\_VECTOR Concatenation of vector control inputs; DataInBus STD\_LOGIC\_VECTOR Memory data in bus inputs; AddressBus STD\_LOGIC\_VECTOR Memory address bus inputs"; overloading ... page 114 table 28, page 50 section 7.3.3, page 54 section 8.1, page 103 section 11.5 paragraph 2).**

**IEEE discloses claim 2.** The method of claim 1 further comprising the steps of:

modeling said memory with a timing generic and a port (**section 4.2; section 4.3.2.1 para 2:**

**"A timing generic is characterized by its name and its type. The naming conventions (see 4.3.2.1.1) communicate the kind of timing information specified as well as the port(s) or delay path(s) to which the timing information applies."");**

modeling a wire delay of said memory (**section 4.2; section 4.3.2.1 para 2: timing**

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**information);**

modeling a timing check for said memory (**page 54, generally section 8 titled "Timing Constraints");**

modeling functioning of said memory (**Abstract; page iii: The scope of the memory model standard is currently restricted to ASIC memory modeling requirement for static RAMs and ROMs.; page 312 "to be executed during simulation elaboration time."; page 5 section "NOTES" item 3) compliant tool).**

**IEEE discloses claim 3.** The method of claim 1 wherein modeling of said path delay comprises the step of overloading VITAL timing check procedures for determining timing constraint violations of the timing of the address, control, and data bus signals of said memory (**page 54 and generally section 8.1, titled "timing check procedures").**

IEEE discloses claim 4. The method of claim 1 wherein modeling of said path delay comprises the step of overloading VITAL wire delay procedures for determining interconnection delay of the address, control, and data bus signals of said memory (**page 15 section 4.3.2.1.3.11; page 26 section 5.2.7.1.3 PORT delay).**

As per claims 6-9, note the rejection of claims 1-4 above. The Instant Claims are functionally equivalent to the above-rejected claims and therefore rejected under same prior-art teachings.

14. Claims 1-20 are rejected under 35 U.S.C. 102(b) based upon a public use or sale of the invention.

Page 20 of the Specification (APPENDIX) discloses that the information submitted was copyright 1997 and further provides a licensing agreement for others to use the software. It is not unreasonable to infer that such information has been for sale since 1997. The Applicants have provided no information to the contrary. The APPENDIX fully anticipates the invention.

An issue of public use or on sale activity has been raised in this application. In order for the examiner to properly consider patentability of the claimed invention under 35 U.S.C. 102(b), additional information regarding this issue is required as follows: the dates when the contents, and contents derived from the APPENDIX were first made available for public use, sold, used, and licensed.

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Applicant is reminded that failure to fully reply to this requirement for information will result in a holding of abandonment.

***Claim Rejections - 35 USC § 103***

15. Claims 5, 10-15 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over IEEE's

"IEEE Standard for VITAL ASIC (Application Specific Integrated Circuit) Modeling Specification IEEE

Std 1076.4-2000 (Revision of IEEE Std 1076.4-1995), and further in view of Official Notice taken.

As per claims 5, IEEE discloses all limitations of claim 1. IEEE however does not disclose Flash NVRAM.

Official Notice is taken with respect to this limitation. All types of SRAM (static ram) are disclosed by

IEEE. This is further evidenced by Applicants' admission in Specification (**para 17**): "**February 2001,**

**provides support for all types of SRAM and ROM memories** - single, dual port, and multi-port

architectures with synchronous and asynchronous operation.". NVRAM is a type of SRAM that is

connected to a constant power source. It would have been obvious to one of ordinary skill in the art at

the time of Applicant's invention to combine the features in order to preserve the memory contents in the

event of a power failure.

As per claims 11-14, note the rejection of claims 1-4 above. The Instant Claims are functionally

equivalent to the above-rejected claims and therefore rejected under same prior-art teachings but for the

model library storage device. IEEE does not disclose that the library storage device. IEEE however

discloses having the content within files (**page 7 section 4.2.2**). Official Notice is taken with respect to

this limitation. It would have been obvious to one of ordinary skill in the art at the time of Applicant's

invention to combine the features in order to save the contents to a medium (**such as HDD or Flash**

**drive**) for later retrieval in the event of a system crash.

As per claims 16-19, note the rejection of claims 1-4 above. The Instant Claims are functionally

equivalent to the above-rejected claims and therefore rejected under same prior-art teachings but for the

medium having a program when executed, executes an electronic design automation process that

describes, evaluates, and simulates a model of memory. IEEE does not disclose that the library storage

device. IEEE however discloses having the content within files (**page 7 section 4.2.2**). Official Notice



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is taken with respect to this limitation. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to combine the features in order to store the simulation program on a medium for later use. In this manner the simulation program would not have to be reinstalled in the event of a system failure.

As per claims 10, 15, and 20, note the rejection of claim 5 above. The Instant Claims are functionally equivalent to the above-rejected claim and therefore rejected under same prior-art teachings.

***Conclusion***

16. All claims are rejected.

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Silver whose telephone number is (571) 272-8634. The examiner can normally be reached on Monday thru Friday, 10am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Silver  
Patent Examiner  
Art Unit 2128

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PRIMARY PATENT EXAMINER  
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/ds/

August 22, 2006